

Remarks

The Examiner has rejected claims 1-10 under 25 U.S.C. 103(a) as being unpatentable over Graf et al in view of Hansen et al. Applicant has amended claims 1 and 9.

The Examiner has recognized that neither the Graf reference nor the Hansen reference disclose all the limitations of the claims and in particular Graf fails to disclose providing sufficient room beneath the grips for accommodating one or more fingers that are not employed during actuation. The Examiner then states it would have been obvious to one of ordinary skill in the art to modify Graf and combine it with Hansen to include concave grips with sufficient room beneath in order to comfortably manipulate the device as taught by Hansen. However, contrary to Examiner's statement, there is no suggestion in the references to combine these references and the Examiner is impermissibly relying on hindsight to combine them.

With respect to claims 1, 4 and 9, the Examiner states that a dispenser according to Graf has an actuation surface which is sufficient to support an average human thumb. However, Graf does not disclose an actuation surface sufficient to support an average human thumb, which is at least 2 cm wide. Instead, Graf discloses an actuation surface of much smaller dimensions as discussed below.

The present invention is directed to having an actuation surface of that is sufficiently wide to comfortably support an average human thumb. According to the invention the actuation surface sufficient to support an average human thumb is defined as:

"sufficiently wide to support at least an average human thumb, **i.e. having a width of at least 2 cm** [Application page 2, paragraph 7, emphasis added].

In contrast to the 2 cm actuation surface of the invention Graf, contains the following information regarding the size of its disclosed dispenser: "As a result of the described construction, the dispenser can be kept very small, e.g. having a maximum extension of less than 5 cm" (ccl. 2, lines 32-34) and "FIG. 1 shows a dispenser according to the invention in elevation and **natural size**." (col. 2, lines 67-68, emphasis added), In Graf, the width of the dispenser in Fig. 1 is approximately 2.7 cm, its length from the top of the *discharge connection* (7) to the *base* (3) is approximately 4 cm. The width of the actuation surface (*handle* 36) is less than 1 cm or approximately 9 mm.

Moreover, the shallow recess (37) in the actuation surface (36) is stated to "reliably support [just] the thumb **cupula** of a hand" (ccl. 4, line 69 ff, emphasis and remark in brackets added).

Thus, contrary to what the Examiner states, the width of the actuation surface of a dispenser according to Graf is considerably less than 2 cm and is therefore not sufficient to completely support an average human thumb, as intended in claim 1.

The Examiner also mistakenly states that it would have been obvious to have modified the grips of Graf with concave grips as taught by Hansen. However, for the reasons stated below, there was no suggestion to combine the grips of Graf with Hansen because Graf discloses a casing construction already sufficiently wide to accommodate the fingers around the dispenser during one-hand operation giving no reason for it to be combined with Hansen for the reasons Hansen suggests.

In the introduction of Graf, the dispenser is described as follows: "The handle for securing the dispenser against the operating pressure [i.e. the casing 2] and which faces the operating push button [36, 36b of container 12, 12b] is appropriately formed by a finger

shield for obtaining one-hand operation and this has oppositely projecting finger contact bases [38,38b] on either side adjacent to the central axis of the thrust piston pump, so that the index and middle fingers of the hand can be supported thereon, whilst the thumb rests on the push button [36,38b of container 12,12b]." (col. 2 lines 21-28, comments and reference signs in brackets added).

Claim 2 of Graf et al. reads: "The dispenser 1.-.] wherein said casing provides outermost dispenser boundaries of said dispenser."

Thus, it is clear from Graf et al. that the dispenser described therein has a casing which is already sufficiently wide to accommodate the fingers (one on each side of the discharge connection 7) that are used for actuation. Therefore, there would have been no reason or suggestion to modify the grips of Graf with the concave grips taught by Hansen. Further, there is no suggestion in either of the references for combining them in that way and in fact Hansen teaches away from such a combination.

Hansen discloses a device for delivery of a flowable material out of a deformable plastic container (1). Said container is disposed in a bushing (17,27), which bushing (17,27) may be provided with grippers (19,29). With regard to the outwardly extending arms (19 in Fig. 4 of Hansen) "In this second embodiment, sufficiently great contact surface is not present for two fingers to be placed on floor 17' of bushing 17. Thus, two diametrically opposite, outwardly extending arms 19 are formed directly on the outside of bushing 17," (col. 5, lines 13—17). Thus, Hansen discloses that extending arms should be formed if sufficiently great contact surface is not present on the shoulders of the device. This condition is not met in Graf where the shoulders [handles 36, 38, 38b] are of sufficient size to create a contact surface for gripping. Col 5 line 1-5 Graf.

In conclusion, the skilled person contemplating Graf would not considered adding further grips extending from the main body of the dispenser, since the (casing of the) dispenser in Graf is already sufficiently wide to accommodate the (index and middle) fingers that are used for actuation. Hansen confirms *a contrario* that the skilled person would only provide grips if "sufficiently great contact surface is not present".

Referring to claim 2, the Examiner states that a dispenser according to Graf can be operated with two hands.

However, in addition to what is discussed above, Graf describes that "[t]he outside of end wall 6 of casing 2 forms in each case one handle 38 [...] In surface 5 of casing 2 and namely on one of its wider sides, a cut out 40 is provided [...] The width of the cut-out 40 provided for engagement with the thumb is made so large, that the thumb simultaneously is guided on both lateral boundaries, so that casing 2 can be placed on the thumb in a substantially self-holding manner." (col. 5, lines 1-21) . The "self-holding manner is later described in another embodiment as a "clamping connection" (col. 6, lines 56-65).

Thus, the design and purpose of Graf is to be used with a single hand. Accordingly, the dispenser in Graf provides room for only a single thumb (and not a millimeter more) and cannot be used with two hands. Graf not only does not disclose or suggest a dispenser used with two hands but in fact teaches the away from use with two hands but promoting its advantages of being operated with a single hand.

With respect to Applicant's claim 5, the Examiner states that Graf discloses cross-section of the actuator and that part of the main body in which the actuator is mounted

is oblong. However, the actuation surface of Graf is in not oblong but formed at the end of a cylindrical container 12 (col 4, lines 64 ff), the connection between cylindrical container (12) and inner sleeve (9) is described as circular (col 3, lines 53-57). See also Fig. 6 shows cylindrical container 12b to be circular not oblong. Thus, in contrast to dispensers according to invention in claim 5, Graf teaches that the actuator should be circular not oblong as claimed.

With respect to claim 6 which is directed to cooperating guide features between the actuator and main body the Examiner is mistaken that Graff discloses this feature. The "co-operating guiding features extending in the direction of actuation" in claim 6 of the present application are longitudinal ribs 7, 8 in the main body 2 and the actuator 6. These longitudinal ribs improve guidance of the actuator 6 in the main body 2 and prevent the tilting of the actuator 6, e.g. when it is subjected to an eccentric force (page 4, lines 4-8 of the application as filed)

Graf, in contrast, discloses that the inner sleeve 9 serves to hold the cylindrical container 12: "[...] uninterrupted spring-in flange 18 [...] with which the cylindrical container 17 [...] engages behind the inner shoulder 11 of inner sleeve 9 and abuts against the same, so that the cylindrical container 12 is accurately axially secured in its starting position." (column 3, line 68 ff.; Note that in view of the references throughout the text "cylindrical container 1?" in column 4, line 3 should probably be read as "cylindrical container 12", or, less likely, "cylindrical surface 17". This ambiguity does not change the functionality of the parts 9, 12, 17 and 18.). Inner sleeve 9 is merely a part of the main body 5 that surrounds the actuator. Inner sleeve 9 is not a separate guiding feature.

Thus, inner sleeve 9 of Graf et al. forms no part of cooperating guiding features extending in the direction of actuation, according to the present application.

With respect to Claim 9, in view of the preceding arguments, it is noted (once more) that dispensers according to the prior art, including those of Graf and Hansen, are unsuitable for use by patients suffering from rheumatoid arthritis (Application page 2, paragraph 004), and that a combination of prior art documents/dispensers would not yield a dispenser according to the present claims.

In contrast, during extensive trials, dispensers having the *combination* of features according to claim 1 or claim 9, *were* surprisingly found to be suitable for use by such patients. Dispensers according to the present invention provide a secure and comfortable grip, which reduces pressure on the hands of a user and allows a variety of ways of holding and actuating the dispenser (Application page 5, paragraph 00019).

For the foregoing reasons and based on the amended claims Applicant believes the claims are now in condition for allowance and respectfully requests allowance of the claims.

Respectfully submitted,

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